DART AEROSPACE

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U/R

SAM 19/03/13

6F9540V00131
Job Sheet 198826

POSITIVE RECALL
EFFECTIVE 19/03/13 DAS AUTH SAD
RELEASED 9 9-89 DATE 20-03-31
Concession Required

Concession # 4000000090702

Part No: 6F9540V00131 **Job Qty:** 1 pcs
Part Name: AW169 Upper Cutter Deflector Assembly

Part Weight: 0 lbs **Status:** New **Priority:** Medium
Job Created: 8/6/19 **Job Tracking No:**
Due Date: 12/20/19 **Created By:** Marie Lajeunesse
Type: SOLD **Description:**

Note: URF18-746 DWG REV C IPP REV:A 13.11.13 NEW ISSUE DD VERF:JLM
Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Hrs	Standard Run Hrs	Workcenter/Supplier Workcenter / Supplier Lead Time	Sign-off
110	Packaging 1 - Pick Kit	1 pcs		12/20/19	0.00	0.00	Packaging 1 - 1	F.D
							Packaging 1 - 2	
							Packaging 1 - 3	
							Packaging 1 - 4	
							Packaging 1 - 5	
							Packaging 1 - 6	
							Packaging 1 - 7	
							Packaging 1 - 8	
							Packaging 1 - 9	
							Packaging 1 - 10	
							Packaging 1 - 11	
							Packaging 1 - 12	
							Packaging 1 - 13	
							Packaging 1 - 14	
							Packaging 1 - 15	
							Packaging 1 - 16	
							Packaging 1 - 17	
							Packaging 1 - 18	
							Packaging 1 - 19	
							Packaging 1 - 20	
							Packaging 1 - 21	
							Packaging 1 - 22	
							Packaging 1 - 23 PC	
							Packaging 1 - 24	
							Packaging 1 - 25	
							Packaging 1 - 26	
							Packaging 1 - 27	
							Packaging 1 - 28	
							Packaging 1 - 29	
							Packaging 1 - 30	
							Packaging 1 - 31	

DART AEROSPACE
Container No: S253238
Part: 6F9540V00131
Job No: 198826
Serial No/Batch: S253238
Revision:
Inspector:
Exp Date:
Instructions:
Date: 02/04/20
Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

				Packaging 1 - 32	
				Packaging 1 - 33	
				Packaging 1 - 34	
				Packaging 1 - 35	
				Packaging 1 - 36	
111	**Packaging 1-1 - Pick Kit - B4B**	1 pcs	12/20/19	0.00 0.00	Packaging 1 - 1 - B4B
					Packaging 1 - 2 - B4B
					Packaging 1 - 3 - B4B
					Packaging 1 - 4 - B4B
					Packaging 1 - 5 - B4B
					Packaging 1 - 6 - B4B
					Packaging 1 - 7 - B4B
					Packaging 1 - 8 - B4B
					Packaging 1 - 9 - B4B
					Packaging 1 - 10 - B4B
					Packaging 1 - 11 - B4B
					Packaging 1 - 12 - B4B
					Packaging 1 - 13 - B4B
					Packaging 1 - 14 - B4B
					Packaging 1 - 15 - B4B
					Packaging 1 - 16 - B4B
					Packaging 1 - 17 - B4B
					Packaging 1 - 18 - B4B
					Packaging 1 - 19 - B4B
					Packaging 1 - 20 - B4B
					Packaging 1 - 21 - B4B
					Packaging 1 - 22 - B4B
					Packaging 1 - 23 - B4B
					Packaging 1 - 24 - B4B
					Packaging 1 - 25 - B4B
					Packaging 1 - 26 - B4B
					Packaging 1 - 27 - B4B
					Packaging 1 - 28 - B4B
					Packaging 1 - 29 - B4B
					Packaging 1 - 30 - B4B
					Packaging 1 - 31 - B4B
					Packaging 1 - 32 - B4B
					Packaging 1 - 33 - B4B
					Packaging 1 - 34 - B4B
					Packaging 1 - 35 - B4B
					Packaging 1 - 36 - B4B
120	**QC 4**	1 pcs	12/20/19	0.00 0.00	QC 4 - 28
					QC 4 - 58
					QC 4 - 69
					QC 4 - 9
					QC 4 - 46
					QC 4 - 68
					QC 4 - 72
					QC 4 - 74
					QC 4 - 75
130	**Packaging 3-1 - Stock - B4B**	1 pcs	12/20/19	0.00 0.00	Packaging 3 - 1 - B4B
					Packaging 3 - 2 - B4B
					Packaging 3 - 3 - B4B
					Packaging 3 - 4 - B4B
					Packaging 3 - 5 - B4B
					Packaging 3 - 6 - B4B
					Packaging 3 - 7 - B4B
					Packaging 3 - 8 - B4B
					Packaging 3 - 9 - B4B

DAS 69 9-89

DAS 69 9-89

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				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
135 **DC - 1 - B4B**	1 pcs	12/20/19	0.00 0.00	DC - 1 - B4B	
				DC - 2 - B4B	APR 2 0 2020
140 **QC 21 - FG**	1 pcs	12/20/19	0.00 0.00	QC 21 - FG - 21	DAS 21
				QC 21 - FG - 70	
				QC 21 - SA - 53	APR 2 0 2020

POSITIVE RECALL

Part Op Descriptions:
110 - (Pick Kit)
120 - (QC4- 100% Inspect kits for completeness)
130 - (Identify as per dwg & Stock Location:_____)Identify and pack for shipping as per PPP 6F9540V00131
135 - (Document Control) Photocopy bluefile per PPP D169-841-013 chg002 and create labels per 6F9540V00131 CHG002
140 - (QC21- Final Inspection - Work Order Release)

DAS 21

See Maree! for concession

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D169-841-013	AW169 Upper Cutter Deflector	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	S252951

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	D169-841-013	1	1	0

Part Specifications

Specifications could not be found.

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LEONARDO HELICOPTERS	**Concessione Fornitore**	**PAGINA** 1 di 2	**STAB. EMITTENTE** Vergiate

NC Fornitore N.	AWC-041	**Data**	02.04.2020	**Concessione**	400000090702	**Ordine**	4801939434
P/N	6F9540V00131			**Grado/Categoria**	NC	**Rev. disegno**	
Descrizione Parte	PROTECTR, CCP ASSY UPPER			**Quantità Lotto**	2,000	**Q.tà sotto conc.**	2,000
Coordinatore NC	GIORGIO BENZONI					**A/C Model**	AW6
Fornitore	DART AEROSPACE LTD					**Contratto**	

Difetto *MA01 - Materiale diverso dal richiesto -*
* 02.04.2020 17:23:27 GIORGIO BENZONI (39851)
* See supplier concession AWC-041 attached

Causa del Difetto ***Ripetitività (stesso P/N-Cod.Difetto)*** NO ☐ SI ☒ (12)

Valutazioni e proposte dell'ENGINEERING

Valutazioni dell'Engineering compresi input dell'Esperto: ***Rapp. Indagine n.*** ***Rapp. Rispondenza n.***
* 07.04.2020 15:24:17 GENNARO MARGIOTTA (5907)
* Ref. PP400000090350
* Deviation Allowed
* Considering the assessment and assumptions made by the supplier *Segue in 2° pag.*

Classificazione Deviazione dal Type Design secondo EASA part 21A.91: Minore/B

Effetti del difetto

	Prima eventuale riparazione	Dopo eventuale riparazione
Sicurezza	☐ Sì	☐ Sì ☐ No
Vita o durata	☐ Sì	☐ Sì ☐ No
Resistenza	☐ Sì	☐ Sì ☐ No
Prestazioni	☐ Sì	☐ Sì ☐ No
Intercambiabilità	☐ Sì	☐ Sì ☐ No
Affidabilità	☐ Sì	☐ Sì ☐ No
Manutenibilità	☐ Sì	☐ Sì ☐ No
Installabilità	☐ Sì	☐ Sì ☐ No
Testabilità	☐ Sì	☐ Sì ☐ No
Solo aspetto	☐ Sì	☐ Sì ☐ No
Nessun effetto	☒ Sì	

Limitazioni

☐ Si (specificare) ☒ NO

Proposte di recupero:

Decisione di Impiego
- ☐ Usare riparato con riparazione specifica
- ☐ Usare riparato con riparazione nota
- ☒ Usare com'è
- ☐ Usare riparato per prove (vedi Limitaz.)
- ☐ Usare com'è per prove (vedi Limitazioni)
- ☐ Scartare

Classificazione Concessione	☐ MAGGIORE ☒ MINORE	***Ripresentare dopo riparazione***	☐ Si ☒ No
Marcatura	☐ NO ☒ SI	***Metodo :*** Indelible ink pen	

ATE	GENNARO MARGIOTTA	***CPE***		***Data***	07.04.2020

Verifiche e prove da effettuare

Registraz. della riparazione Con Ordine (WO) di riparazione ☐ ***Numero:***

Valutazione Riparazione:

Decisioni finali

S/N	Usare com'è (UTI)	Usare riparato (RIL)	Scartare (SCA)	S/N	Usare com'è (UTI)	Usare riparato (RIL)	Scartare (SCA)
S253238	☒	☐	☐		☐	☐	☐
S253996	☒	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐
	☐	☐	☐		☐	☐	☐

Non Serializzati	***Q.tà Usare com'è***	2,000	***Q.tà Usare riparato***		***Q.tà Scartare***

Funzione	*ATE AW*	*CPE AW*	***Verifica della Riparazione***	***Qualità***	***Cliente***	***MOD/Rappresent. Istituzionale***
Firma	*GENNARO MARGIOTTA*			*GIORGIO BENZONI*		
Data	*07.04.2020*			14.04.2020		

NC Fornitore N.	AWC-041	Data	02.04.2020	Concessione	400000090702	Ordine	4801939434

CAUSE DEL DIFETTO

* *C8C5 Metodo e Processi*

VALUTAZIONI DELL'ENGINEERING

engineering the deviation is accepted.

* Mark the part with concession number in order to keep trace of the deviation.
* The deviation must be mentioned by Dart during the process of the validation for change design.

Supplier NC Number	AWC-041	Date	March 31, 2020	LH NC Number	400000090702	Purchase Order	4801939434
LH PN	6F9540V00131	S/N / Batch N.	S253238 S253996	Grade/ Criticality	NC	LH DWG issue	B
P/N Description	Protector, CCP Assembly Upper			Batch Qty	2	Defective Qty	2
Supplier Name	Dart Aerospace LTD					Model	AW169

Defect(s) Description

1. Gasket material for D4857-041 found on the D169-841-013 (LH PN 6F9540V00131) upper cutter deflector kit has been discontinued by the manufacturer.
2. D4857-041 (2x) and D4944-1 (4x), P/N 6F9540V00131, to be supplied without the 4x 5.33mm holes drilled per drawing. The operation of drilling is to be performed by a Leonardo operator as per attached production permit.
3. The material of the D4823-1 upper cutter deflector and D4824-1 upper cutter mount was deviated from the approved data. The parts were manufactured using aluminum plate per AMS-QQ-A-250/12 instead of aluminum bar. The substantiation for the deviation provided in the attached engineering evaluation.
4. The grain direction on the D4823-1 upper cutter deflector and D4824-1 upper cutter mount deflector was deviated from the approved Data. The substantiation for the deviation is provided in the attached engineering evaluation.

Department	Inspector	Signature	Date
Quality Assurance	[illegible] 9 [illegible]		March 31, 2020

Defect(s) Cause

1. Discontinued 8623K358 / 8623K338 gasket material.
2. Due to issue regarding QJ 200001282441 Dart Aerospace Drawing requirements and requirements specified in Leonardo's 3D model parts are to be supplied to Leonardo without the Ø5.33mm / Ø.210" holes drilled per drawing D4857. Previous parts provided the hole pattern do not match the A/C structure.
3. To facilitate manufacture, Dart would like to modify the material on the approved drawing to manufacture the parts using aluminum plate per AMS-QQ-A-250/12.
4. To minimize material waste, Dart would like to modify the grain direction on the approved drawing.

Department	Inspector	Signature	Date
Quality Assurance	[illegible] 9 [illegible]		March 31, 2020

Corrective Action

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Dart requests Leonardo Helicopters to accept the modified parts as described in this Concession. Dart is in the process of updating the drawings for approval by Leonardo Helicopters for future production.

Department	Inspector	Signature	Date	Foreseen implementation date
Quality Assurance			March 31, 2020	

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For Suppliers approved as "MANUFACTURER" only

Supplier ENGINEERING evaluation and proposal

Investigation Report n: NCR17-6591

Compliance Report n.

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1. Part number DSP1135M will replace the existing material. DSP1135M meets ASTM D1056, AMS3195, Mil-R-46089, Mil-R-6130, and Mil Std 670 TE12 Specifications. The material callouts on D5117 drawings have been updated to reflect this. No other change to design or certification data is required. This change is classified by Dart Aerospace as a minor change
2. No design changes. Removing the holes from the D4857-041 Deflectors and having them drilled during installation will prevent mismatched holes during installation.
3. In reference to Structural Substantiation Report DA169-4 page 48, the cable cutter system (CCS) was analysed using 7075-T6 aluminum sheet AMS-QQ-A-250/12. Therefore, manufacture of CCS parts using AMS-QQ-A-250/12 material has no effect on the structural substantiation.
4. Per DA169-4, the minimum margin of safety for the D4823-1 Upper Cutter Deflector and D4824-1 Upper Cutter Mount is 0.15 (page 66, 15 degree cutting strike on mount) which corresponds with a maximum stress of 61.9 ksi.
5. In reference to MMPDS-07 Tables 3.7.9.0 (b2) & (b3), the minimum yield strength of AMS-QQ-A-250/12 plate between 0.250"-2.000" thick in either the L or LT grain direction is 64 ksi (7075-T62 in longitudinal grain direction).
   Repeating the margin of safety calculation in DA169-4 for 64 ksi material strength:
   MS = (Yield Strength / Maximum Load) -1
   = (64 ksi / 61.9 ksi) -1
   = 0.03
   The margin of safety is positive. Therefore, the grain direction can be rotated in the L – LT plane with no effect on the strength substantiation of the D4823

	Defect Effects			Limitations after repair
	Before any repair	After any repair		
Safety	□ yes	□ yes	□ no	□ yes (specify) □ no
Life	□ yes	□ yes	□ no	
Strength	□ yes	□ yes	□ no	
Performance	□ yes	□ yes	□ no	
Interchangeability	□ yes	□ yes	□ no	
Reliability	□ yes	□ yes	□ no	
Maintainability	□ yes	□ yes	□ no	
Installability	□ yes	□ yes	□ no	
Only Aspect	□ yes	□ yes	□ no	

Repair Proposal

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